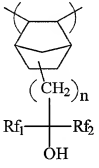
Claims

1. A negative photoresist composition comprising:

a) an alkali soluble polymer comprising at least one unit of structure 1,



where Rf_1 and Rf_2 are independently a perfluorinated or partially fluorinated alkyl group; and,

n is 1-8,

b) a single or mixture of photoacid generators; and,

c) a crosslinking agent.

2. The photoresist composition according to claim 1, where the polymer contains other units.

3. The photoresist composition according to claim 2, where the other units are selected from tetrafluoroethylene, ethylene, cycloalkenes, substituted cycloalkenes, maleic anhydride, cyanoacrylate and cyanomethacrylate.

4. The photoresist composition according to claim 1, where the polymer is poly[5-(2-trifluoromethyl-1,1,1-trifluoro-2-hydroxypropyl)-2-norbornene].

5. The photoresist composition according to claim 1, where in the polymer, n is 1.

6. The photoresist composition according to claim 1, further comprising a base.

7. The photoresist composition according to claim 6, where the base is selected from tetrabutylammonium hydroxide, triethanolamine, diethanol amine, trioctylamine, n-octylamine, trimethylsulfonium hydroxide, triphenylsulfonium hydroxide, bis(t-butylphenyl)iodonium cyclamate and tris(tert-butylphenyl)sulfonium cyclamate.

8. A process for imaging a negative photoresist comprising the steps of:

a) forming on a substrate a photoresist coating from the photoresist composition of claim 1;

b) image-wise exposing the photoresist coating;

c) postexposure baking the photoresist coating; and

d) developing the photoresist coating with an aqueous alkaline solution.

9. The process of claim 8, where the image-wise exposure wavelength is below 200 nm.

10. The process according to claim 8 where the aqueous alkaline solution comprises tetramethylammonium hydroxide.

11. The process according to claim 8 where the aqueous alkaline solution further comprises a surfactant.